DISCLOSURES UNDER CONSIDERATION

Philip Morris Incorporated Privileged and Confidential

14 February 1978

,,,,,,				
*	·	7	7	0

- TT METHOD OF REMOVING SAND, OTHER PARTICLES, AND FOREIGN MATTER
- T FROM TOBACCO/5-25-76
- :I R. BASS, R. JENKINS, JR., AND R. COMES

The state of the s

- C TOBACCO TREATMENT + CLEANING
 - :D R&D/CHEMICAL RESEARCH DIVISION/NUCLEAR AND RADIOCHEMISTRY
 - *:D OF SMOKE/OSDENE/JOHNSON
 - A METHOD OF WATER SPRAYING GREEN TOBACCO LEAF WITH CONTROLLED
- :A PRESSURE AND PATTERN, OPTIONALLY WITH SURFACTANT. THE LEWIS OF L
- 📚:S SAH/8-5-76 SEARCH COMPLETED; NEW INFORMATION AWAITED FROM 1977
- :S TOBACCO CROP

- 743 T IMPROVED FILTER FOR DILUTED CIGARETTES/6-18-76
 - I M. KELLEY, JR.
 - C FILTER + VENTILATED
 DR&D/NEW CIGARETTE PRODUCTS DIVISION/NEW PRODUCT DEVELOPMENT
 - D GANNON/MEYER and the second
 - A VENTILATION TUBE LEADS AIR TO CENTRAL PART OF FILTER.
 - S'S GEI/2-14-78 INACTIVATED

- *T GLUCOSE ESTERS AS TOBACCO FLAVORANTS/9-9-76
- :I E. RUNDBERG (NO LONGER HERE)
- :C FLAVOR + RELEASE
- ID R&D/CHEMICAL RESEARCH DIVISION/MECHANISMS FOR SMOKE FORMATION
- ID OSDENE/JOHNSON
- :A FLAVOR IMMOBILIZED UNTIL RELEASE ON BURNING.
- 'S SAH/AWAITING MORE INFORMATION FROM T. SANDERS

- :D R&D/NEW CIGARETTE PRODUCTS DIVISION/NEW PRODUCT DEVELOPMENT
- D GANNON/MEYER
 - :A DECORATIVE PATTERN APPLIED TO ROD.
- S:S GMJS/UNDER ADVISEMENT; FOSSIBLE DESIGN APPLICATIONS; MANAGEMENT
- S DECISION NEEDED

- THE THE PERSON DEL ***** *LITETRONIC* CIGARETTE INSPECTION DEVICE/10-14-76

 - IT "LITETRUMIC GIGGLE...
 IT CUMMINS CALLET CONTROL CON D LOUISVILLE/MANUFACTURING ENGINEERING/MISCELLANEOUS
 - A THE "LITETRONIC" IS AN ELECTRONIC CIGARETTE INSPECTION DEVICE
 - A FOR CIGARETTE PACKING MACHINERY. IT IS DESIGNED TO INSPECT FOR
 - A LOOSE ENDS, MISSING FILTERS, AND MISSING CIGARETTES IN AN
 - : A ARRANGED BUNDLE.
 - S AIP/AWAITING REVIEW AT LOUISVILLE ON THE BASIS OF PROTOTYPE
 - S UNIT RECENTLY COMPLETED

The state of the s

- 760 T EXTRUDATE THREADING SYSTEM FOR EXTRUDING LINES/12-3-76
- :I D. LASLIE
 - C MECHANICAL + EXTRUDER
- D PROCESS DEVELOPMENT/GANNON/MEYER

 - S GMJS/AWAITING MORE INFORMATION

- *T TOBACCO FLAVOR-REACTION PRODUCTS/2-14-77
- :I J. SWAIN AND F. CRAYTON
- :C FLAVOR + SYNTHESIS
 - :D R&D/FLAVOR DEVELOPMENT DIVISION/FLAVOR DEVELOPMENT GROUP
 - ID GANNON/DAYLOR
 - :A REACTION PRODUCTS OF FRUCTOSE, AMMONIA, AND FATTY ACIDS TO FLAVOR
 - :A TOBACCO.
 - \$S SAH/6-77 PRELIMINARY SEARCH COMPLETED ON PM DATA BASE; SOME PRIOR
 - *S ART FOUND; 2-8-78 COMPREHENSIVE SEARCH REQUESTED; AWAITING
 - S EXAMPLES

- *T TESTER/3-15-77
 - :I L. BARTLAM
 - C INSTRUMENT + ANALYTICAL
 - *D R&D/APPLIED RESEARCH/COMPUTER SERVICES/FARONE/CLARK
 - \$S GMJS/5-25-77 SEARCH COMPLETED; AWAITING MORE INFORMATION
- T RELATIVE HUMIDITY INSTRUMENT/4-5-77
 - I J. NIENOW AND F. SHERWOOD
 - C INSTRUMENT + MOISTURE METER
 - D R&D/TOBACCO SERVICES DIVISION/CIGARETTE AND TOBACCO MEASUREMENT
 - D METHODS/GANNON/OSMALOV

- A UTILIZES MICROWAVE MOISTURE MEASUREMENT OF NATURAL PRODUCT TO
- A DETERMINE R.H. OF ENVIRONMENT.
- S GMJS/9-16-77 SEARCH COMPLETED ON PM DATA BASE

- *785 :T IMPROVED DILUTION UNIFORMITY OF VENTED FILTER TIP CIGARETTES
 :T 8-14-77 :: I L. MEYER AND W. HOUCK, JR.

- C FILTER + METHOD + WRAPLESS PLUG
 - BID RED/NEW CIGARETTE PRODUCTS DIVISION/BRAND DEVELOPMENT
- D GANNON/MEYER
 - A WRAPLESS ACETATE FILTER PLUGS FOR BOTH VENTED AND UNVENTED A FILTERS. FOR LATTER, GOAL IS SIMPLIFICATION OF MAKING.
 - TOR LAI
 - S AIP/AWAITING FURTHER DISCLOSURE DETAILS
- 4:T FILTER MATERIAL/8-18-77

: G. KERITSIS

- T:C FILTER + METHOD + FOAM OR EXTRUDATE
 - ID R&D/TOBACCO MATERIALS DEVELOPMENT DIVISION/MODIFIED SMOKING
- MATERIALS/GANNON/BURNS
 - :A POROUS OR FOAM FILTER ROD IS EXTRUDED FROM DEFATTED PROTEIN.
 - :A ALTERNATIVELY, PROTEIN FIBER TOW CAN BE EXTRUDED.
 - S GEI

- 787 TUSE OF PHENOLIC GLYCOSIDES AS FLAVORANTS IN TOBACCO/9-21-77
 - :I E. SANDERS
 - C FLAVOR + RELEASE + SYNTHESIS

- D R&D/CHEMICAL RESEARCH DIVISION/SYNTHESIS OF TOBACCO ADDITIVES
 - TO OSDENE/JOHNSON
 - :A PHENOLIC GLYCOSIDES USEFUL AS FLAVORANTS IN SMOKING MATERIALS :A ARE DISCLOSED. ON PYROLYSIS, THE PHENOL FLAVORANT IS RELEASED TO
 - :A FLAVOR THE SMOKE. ADVANTAGEOUS IN THAT THE COMPOUNDS ARE
 - A ODORLESS AND REDUCE PACK AROMA.
 - S SAH
- T CONTROLLED DILUTION (CIGARETTES) USING STANDARD FILTER WRAP
 - T 10-11-77
 - I J. NAMESNY
 - C FILTER + VENTILATED

The state of the s

- D R&D/ENGINEERING SERVICES DIVISION/DESIGN AND ASSEMBLY/THOMSON
- 🐲:D MUTTER 🚙 D MUTTER
- :A EXPENSIVE THAN INHERENTLY PERMEABLE PLUG WRAP. A ELECTROSTATICALLY PERFORATED TIPPING PAPER OVER A MECHANICALLY
 - A PERFORATED PLUG WRAP MADE WITH IMPERMEABLE PAPER, WHICH IS LESS

- T A PROCESS FOR THE IMPROVING OF TOBACCO (ACCELERATED FERMENTATION
 - T 8-1-77
 - 🚉 I NOT KNOWN 💢 🚟
 - *C MICROORGANISMS + REMOVAL OF UNDESTRABLE COMPONENT + DENITRATI
 - ::D PM EUROPE/FTR/MISCELLANEOUS
 - A A CULTURE OF MICROORGANISMS REQUIRING OXYGEN BUT CAPABLE OF
 - :A LIVING ANAEROBICALLY WHILE USING NITRATE AS NUTRIENT, WHICH ARE
 - :A BROUGHT TO THEIR EXPONENTIAL GROWTH PHASE UNDER ANAEROBIC
 - :A CONDITIONS, ARE MADE TO REACT UNDER LIKE CONDITIONS ON THE
 - :A NITRATES, NITRITES, AND OTHER TOBACCO COMPONENTS UNTIL THE
 - A NITRATES AND NITRITES ARE REDUCED TO THE DESIRED LEVEL AND THE
 - :A EFFECT OF THE MICROORGANISMS IS THEN STOPPED.
 - 'S AIF/INFORMATION ONLY; BASED ON ORIGINAL LUXEMBOURG FILING

- :I G. MATHE, J. NAMESNY, AND A. GERGELY
- C PAPER + PERFORATING TIPPING

THE PARTY HARMAN CONTROL OF THE PARTY OF THE

- *D R&D/NEW CIGARETTE PRODUCTS DIVISION/FILTER AND CIGARETTE
- :D PROCESS DEVELOPMENT/GANNON/MEYER
 - A:A VERY HIGH SPEED PERFORATION ACCOMPLISHED BY ULTRASONIC-
- :A POWERED TOOL.
- S GMJS/2-10-78 SEARCH COMPLETED
- **793 ST PAPER SLITTING BY ULTRASONIC FOWER/10-24-77
 - I G. MATHE AND J. NAMESNY
 - C PAPER + CUTTING
 - *D R&D/NEW CIGARETTE PRODUCTS DIVISION/FILTER AND CIGARETTE
 - D PROCESS DEVELOPMENT/GANNON/MEYER
 - A PAPER PASSED BETWEEN GROOVED ROLL AND ULTRASONIC-POWERED TOOL.
 - S GMJS/2-10-78 SEARCH COMPLETED

- **794 T MICROWAVE/GAS CHROMATOGRAPHY/10-24-77
 - I D. WATSON

Republican

- C ELECTRICAL + MICROWAVE
- D R&D/ANALYTICAL DIVISION/GAS CHROMATOGRAPHY SECTION/OSDENE/WILL
- A MICROWAVE SPECTROSCOPY FOR SELECTIVE DETECTION OF COMPONENTS
- A ELUTING FROM A GAS CHROMATOGRAPH.
- S GMJS/RELATED TO PM 795; SEARCH IN PROGRESS

- **795 T MICROWAVE/GAS CHROMATOGRAPHY/10-24-77
 - I D. WATSON
 - :C ELECTRICAL + MICROWAVE
 - :D R&D/ANALYTICAL DIVISION/GAS CHROMATOGRAPHY SECTION/OSDENE/WILL
 - A MICROWAVE ENERGY SOURCE SELECTIVELY VAPORIZED COMPONENTS FOR
 - :A FURTHER SEPARATION BY GC.
 - S GMJS/RELATED TO PM 794; SEARCH IN PROGRESS

*T BIOSYNTHESIS OF A TOBACCO FLAVORANT OR TOBACCO SMOOTHER-T FERMENTED TOBACCO/10-28-77

I B. SEMP, D. TENG, AND S. TENHET

:C MICROORGANISMS + FERMENTATION + FLAVOR D R&D/BIOMATERIALS SCIENCE GROUP/BIOCHEMICAL MODIFICATION

D OF TOBACCO/FARONE/TENG

A BIOSYNTHESIS OF TOBACCO FERMENTATION FLAVORANTS BY MICRO-

ADVANTAGES INCLUDE USE ON UNFERMENTED TOBACCO AND LOW

:A DELIVERY CIGARETTES. BIN ADDITION, IT IS MORE RAPID THAN CONVEN

A TIONAL TOBACCO FERMENTATION PROCEDURESS.

S SAH

*** T METHOD FOR PREVENTING ADHESIVE BLEED THROUGH/11-7-77

I W. NICHOLS

C MECHANICAL

**D R&D/NEW CIGARETTE PRODUCTS DIVISION/FILTER AND CIGARETTE

A:D PROCESS DEVELOPMENT/GANNON/MEYER

A MECHANISM RAISES THE PLUGWRAP WHEN MACHINE TURNED OFF,

A REMOVES FROM CONTACT WITH HOT MELT APPLICATOR.

T LIPID REMOVAL FROM GREEN TOBACCO/11-10-77

II B. SEMP AND D. TENG

The state of the s

C ENZYME + REMOVAL OF UNDESTRABLE COMPONENT

:D R&D/BIOMATERIALS SCIENCE GROUP/BIOCHEMICAL MODIFICATION

:D OF TOBACCO/FARONE/TENG

:A GREEN TOBACCO IS TREATED WITH A LIPASE ENZYME TO REMOVE LIPIDS.

A THE "GREEN" ODOR IS ELIMINATED AND SMOKING QUALITY IMPROVED.

S SAH

- *T AMINO ACID-SUGAR TOBACCO FLAVORANTS/11-16-77
 - I L. WU
 - C FLAVOR + SYNTHESIS
 - ID R&D/FLAVOR DEVELOPMENT DIVISION/GANNON/DAYLOR
 - :A THE REACTION OF SUGAR, ASPARAGINE, OTHER AMINO ACIDS, AND
 - :A ALDEHYDES IN THE PRESENCE OF NH4OH; THE REACTION CAN BE DONE
 - A WITH OR WITHOUT ADDED HEAT. THE RESULTING PRODUCT IS USED TO
 - 👸:A IMPROVE THE FLAVOR OF LOW DELIVERY AND RL CIGARETTES.
 - S SAH
- **** T DEVICE FOR MEASURING POROSITY OF PAPER/11-23-77
 - 🐉:I J. WASHINGTON, G. CROWTHER, AND R. GAUDLITZ
 - C INSTRUMENT + POROSITY
 - *D R&D/ENGINEERING SERVICES DIVISION/R&D PROJECT ENGINEERING
 - D THOMSON/MUTTER
 - **:**A OPERATES OVER A WIDE RANGE OF POROSITIES BY COMPUTER MATCHING
 - \$\$A TO FIND A COMBINATION OF ORIFICES WHILE PRESSURE IS HELD
 - S GMUS/SEARCH IN PROGRESS
- RHEOMETER/11-23-77 I G. MATHE

A STATE OF THE STA

- ID R&D/NEW CIGARETTE PRODUCTS DIVISION/FILTER AND CIGARET
- D PROCESS DEVELOPMENT/GANNON/MEYER
- A A SPECIAL CONSTRUCTION PERMITS INCORPORATION OF FOAMING AGENT
- A INTO POLYMER IN THE RHEOMETER FOR DETERMINATION OF RHEOLOGICAL
 - A PROPERTIES OF THE FOAMED MATERIAL.
 - S GMJS/SEARCH IN PROGRESS

1005115914

**805

- *T CONTROLLED DILUTION/11-15-77
- :I F. RESNIK
- :C FILTER + VENTILATED
- ID NEW YORK/MISCELLANEOUS
- S GMUS/TESTING IN PROGRESS TO DEVELOP DATA FOR PATENT APPLICATION

- EXTRUDER AUTOMATIC ROD CIRCUMFERENCE CONTROL/12-7-77
- L. CHAMBERLAIN, T. CUMMINS, AND A. HALL
- INSTRUMENT
- *D LOUISVILLE/MANUFACTURING ENGINEERING/MISCELLANEOUS
- S GMJS/UNDER ADVISEMENT; SEARCH IN PROGRESS

- T IMPROVED FLAVOR FORMULATIONS FOR RECONSTITUTED TOBACCO/12-12-77
- I F. DAYLOR, JR., H. SPIELBERG, J. SWAIN, AND D. KEEL C RECONSTITUTED + ADDITIVE

The first was a first of the same of the s

- CONTROL OF THE PROPERTY DIVISION/FLAVOR DEVELOPMENT GROUP
 - *D GANNON/DAYLOR LANGE TO THE STATE OF THE S
 - A CHEMICALS ADDED TO CEL IN THE PAPER MADE RECONSTITUTED TOBACCO
 - PROCESS, SUCH MIXTURE BEING SATURATED INTO THE BASEWEB SHEET AND
 - DRIED TO PROVIDE FINISHED RECONSTITUTED TOBACCO SHEET.
- *: A PARTICULARLY TO NEW MATERIALS AND/OR MIXTURES RESULTING IN
- * A SUBJECTIVE IMPROVEMENTS OVER EARLIER TOBACCO RECONSTITUTED SHEET
 - PERMITTING USE IN TOBACCO BLENDS AT MUCH HIGHER LEVELS (E.G. UP
 - :A TO 30%). THE FORMULATIONS CONTAIN DAP, UREA, ISOSWEET, COCO
- 🍪:A SHELLS, ST. JOHN'S BREAD, SORBISTAT, TEG OR GLYCERINE, AND
- *A VALERIAN ROOT POWDER.

- T REDUCTION OF "NO" IN TOBACCO SMOKE AND DENITRATION OF TOBACCO
- T 12-6-77 学学
- G. KERITSIS
- TOBACCO TREATMENT + DENITRATION
- R&D/TOBACCO MATERIALS DEVELOPMENT DIVISION/MODIFIED SMOKING
- MATERIALS/GANNON/BURNS
- A A PROCESS FOR THE REDUCTION OF OXIDES OF NITROGEN IN TOBACCO
- TOBACCO WHICH HAS BEEN TREATED TO REMOVE :A SMOKE IS DISCLOSED.
- :A NITRATES, AND SPECIFICALLY POTASSIUM NITRATE, IS FURTHER TREATED
- BY RESTORATION OF THE METALLIC CATIONS, AND ESPECIALLY POTASSIUM
- CATIONS TO ABOUT ITS ORIGINAL LEVEL IN THE TOBACCO. NEW AND
- IMPROVED TECHNIQUES FOR DENITRATING TOBACCO USING ANION EXCHANGE
- RESINS, IONIC MEMBRANE ELECTRODIALYSIS, ELECTROREGENIRATING ION
- :A EXCHANGE DEIONIZATION OR DONNAN DIALYSIS ARE DISCLOSED.

S SAH

:I C. HIGGINS AND F. SHERWOOD :C INSTRUMENT + FIRMNESS OF ROD *** D R&D/ENGINEERING SERVICES DIVISION/R&D PROJECT ENGINEERING # D THOMSON/MUTTER S GMUS/IMPROVEMENT ON J. NIENOW PATENT 4033360 *812 FT POROUS CIGARETTE FILTER RODS: PROCESS AND PRODUCTS/1-25-78 :I G. KERITSIS C FILTER + METHOD STORMS DEVELOPMENT DIVISION/MODIFIED SMOKING D MATERIALS/GANNON/BURNS *T FILLER EXPANSION WITH WATER/2-6-78 I P. AUMENT, R. DE LA BURDE, AND F. UTSCH C EXPANSION ്:D R%D/TOBACCO MATERIALS DEVELOPMENT DIVISION/TOBACCO PROCESSING ID GANNON/BURNS A STATE OF THE STA 屬計A PROCESS FOR INCREASING FILLING POWER OF TOBACCO WITHOUT USING A FOREIGN AGENTS OR EXPENSIVE PROCESSING EQUIPMENT. STEPS **A INCLUDE: (1) WETTING OF TOBACCO MORE THAN WHAT IS NORMAL IN A PROCESSING OF TOBACCO FOR CIGARETTES, (2) ALLOWING TOBACCO TO A EQUILIBRATE, (3) RAPIDLY DRYING FILLER TO OV LEVELS BELOW 7% A (PREFERABLY BELOW 3%) TO EXPAND AND STIFFEN FIBER STRUCTURE, A AND (5) REMOISTURIZING THE "OVERDRIED" CUT TOBACCO TO LEVELS : A USEFUL FOR CONVENTIONAL CIGARETTE MAKING.

IT IMPROVED APPARATUS PROVIDING OUTPUT INDICATION OF TOBACCO ROD

*T FIRMNESS/12-12-77